

PROCEEDINGS

of the

Hawaiian Entomological Society

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FOR THE YEAR 1957

JULY, 1958

JANUARY 14, 1957

The 613th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, January 14, 1957, with President-elect Tuthill presiding.

Members present: Adachi, Awai, Balock, Barker, Beardsley, Bess, Bianchi, Boyle, Carter, Chilson, Chock, Chong, Gressitt, Hardy, Holway, Ito, Joyce, Kamasaki, Keck, Keiser, Look, Macdougall, Maeda, Maehler, Mitchell, Miyake, Nakata, Namba, Nishida, Ota, Pemberton, D. Rainwater, Rosa, Sakimura, Steiner, Suehiro, Tuthill, Weber, Woolford, and Yoshimoto.

Visitors: John R. Einmo, James R. Holloway, and James Y. Kim.

Mr. John R. Einmo was elected to membership in the Society.

A constitutional amendment proposed at the meeting of November 13, 1956, was adopted. This amendment replaces paragraph 4 of Section 2, Article 5, with the following: "Vacancies occurring among elective offices of the Society shall be filled by the Executive Committee, subject to approval by the membership."

Dr. Hardy showed a most interesting sound-and-color motion picture entitled "The Rival World" and issued by the Shell Chemical Company.

NOTES AND EXHIBITIONS

ARAE CERUS VIEILLARDI (Montrouzier): Dr. Nishida reported damage by this anthribid beetle to passion fruit, *Passiflora edulis* f. *flavicarpa* Degener. During July of 1956 many mature green passion fruits were found dropping to the ground on the University of Hawaii Experimental Farm at Waimanalo, Oahu. The peduncles of these fruits were being damaged by small coleopterous larvae found under the dried calyx and corolla, which remain on the peduncle until the fruit is fully grown. When the peduncles were cut off and placed in rearing jars, adults of *A. vieillardii* emerged. Although the beetle is known to feed on a large number of plants, this appears to be the first ob-

served case of its damaging passion fruits. Specimens were identified by Miss Rose Ella Warner of the U. S. Department of Agriculture.

HUNGARIAN ENTOMOLOGISTS: Dr. Gressitt provided interesting notes on two Hungarian entomologists who were out of Hungary when the recent uprisings began there. Dr. Paul Surany, who is doing research on the coconut rhinoceros beetle in Ceylon for the South Pacific Commission through a Rockefeller Foundation grant, has not heard from his parents in Hungary since the trouble started. However, Dr. J. J. H. Szent-Ivany, who is working in the Australia-New Guinea area, reports that his wife and daughter have escaped from Hungary. These two men recently spent time together in Ceylon, Java, and Singapore.

Mr. Beardsley presented notes on the following four species and exhibited specimens:

DIVERSINERVUS ELEGANS Silvestri: Specimens of this encyrtid wasp, previously unrecorded in the Territory, were reared from *Saissetia nigra* (Nietner) collected on hibiscus at Pearl Harbor, Oahu, during December 1956 by C. F. Clagg. The determination was made by Messrs. Timberlake and Compere at the University of California Citrus Experiment Station, and the taxonomy and biology of *elegans* have been treated by Compere (UNIV. CALIF. PUBL. ENT. 5(11):233-245, 1931). Compere found it to be a primary parasite of *Saissetia oleae* (Bernard), the black scale. It has previously been known from Africa and Queensland, Australia.

HABROLEPIS ROUXI Compere: Several specimens of this encyrtid wasp, first found in the Territory during 1956, were collected on a scale-infested citrus tree at Waipio, Oahu, during January. One wasp was reared from *Chrysomphalus ficus* Ashmead, and this is the first host record for the wasp in Hawaii. It has been reared from *Aonidiella aurantii* (Maskell) on citrus in California.

HELIOTHIS VIRESCENS (Fabricius): Adults of the tobacco budworm were reared from larvae found feeding on blossoms of the Chinese preserving melon, *Benincasa hispida* (Thunb.) Cogn., which apparently constitutes a new host record for this recent immigrant phalaenid moth.

ORTHOTYLUS PERKINSI Kirkaldy: A series of this mirid bug was taken at about 2000 feet elevation at Kawela, Molokai, December 13, 1956, on *Sophora chrysophylla* (Salisb.) Seem. Neither the mirid nor its leguminous host plant has been reported previously from Molokai, although they are known from the other main islands of the Hawaiian group.

EIDOLEON WILSONI (McLachlan): Mr. Bianchi reported that he and Mr. Beardsley had found adults of this myrmeleonid fairly abundant on December 12 and 14, 1956, at Kawela, Molokai, on a rocky eroded slope from sea level to about 600 feet elevation. This is a new Molokai record, as the species

has been previously reported only from Hawaii and Lanai. However, another species, *E. perjurus perjurus* (Walker), is known from Molokai, as well as from Oahu.

LAPHYGMA EXEMPTA (Walker): Mr. Bianchi stated that he and Mr. Beardsley had found the nutgrass armyworm quite abundant in a grassy area a few feet above sea level at Kawela, Molokai, on December 12 and 14, 1956. The case is noteworthy because during the last few years such infestations have become uncommon on most of our islands, particularly Oahu, due presumably to the establishment of a number of parasites introduced from Texas in 1942-1943. Of these parasites, *Meteorus laphygmae* Viereck, *Apanteles marginiventris* (Cresson), and *Achaetoneura archippivora* Williston were either collected on Molokai by Bianchi and Beardsley or reared by them from caterpillars collected there.

PARATRIGONIDIUM ATROFERRUGINEUM Brunner: Mr. Bianchi reported collecting many of these crickets at an elevation of 1000 or 1200 feet at Kawela, Molokai. The species is endemic to that island and the collection is noteworthy only in that the crickets were more abundant than is usually the case. As usual, they were to be found exclusively on one form of the tree host, *Metrosideros collina polymorpha* (Gaud.) Rock, although other forms were in some cases immediately adjacent. The color of the leaves in the preferred form is such that it is extremely difficult to see the crickets among them, which would not be the case with other forms of the tree.

Mr. Maehler exhibited group photographs of members that were taken many years ago, presumably at Society meetings.

FEBRUARY 11, 1957

The 614th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, February 11, 1957, with President Christenson in the chair.

Members present: Adachi, Awai, Beardsley, Bess, Bianchi, Bonnet, Boyle, Carter, Chilson, Chock, Chong, Christenson, Clagg, Einmo, Fullaway, Gressitt, Hardy, Isenberg, Ito, Joyce, Kajiwaru, Keck, Look, Macdougall, Maeda, Maehler, Mitchell, Nakagawa, Nakata, Namba, Nishida, Ota, Pemberton, D. Rainwater, H. I. Rainwater, Rosa, Sakimura, Steiner, Tuthill, Warner, and Weber.

Visitors: Harry Hochman, James R. Holloway, James Y. Kim, Earle G. Linsley, Louis McGee, Elizabeth McMahan, and Thorndyke Roe, Jr.

Mr. Louis McGee and Miss Elizabeth McMahan were nominated for membership in the Society.

Mr. James Y. Kim was elected to membership in the Society.

The Secretary read a letter of thanks from the Zoological Society of London for our Society's customary annual contribution of fifty dollars, for 1956, to the Zoological Record Fund.

Dr. Carter presented an excellent Kodachrome-illustrated talk on his recent study of swollen shoot disease and insect pests of cacao in Ghana, Africa.

NOTES AND EXHIBITIONS

DESTRUCTION OF COLLECTIONS AT THE HUNGARIAN NATIONAL MUSEUM: Drs. Gressitt and Hardy compared reports of damage at the Hungarian National Museum as a result of the recent uprisings in Hungary. The most recent and apparently most reliable information was received by Dr. Gressitt. He reported that word from Mrs. Szent-Ivany (via her husband in New Guinea) and from other sources indicated that the following groups were completely destroyed: Acarina, Orthoptera, neuropteroid insects, and Diptera other than acalyptrates. Several thousand Diptera types were destroyed, along with several large collections recently acquired: those of Pillich, Ruff, Sajo, and Thalhammer. The very important Horvath collection of Heteroptera was partly destroyed. Coleoptera and Lepidoptera were largely undamaged.

MISCELLANEOUS NOTES AND EXHIBITS: Dr. Gressitt presented the following notes on entomologists and projects. Dr. K. Yasumatsu of Kyushu University, on his way back to Japan from a year's visit to the Mainland, was a visitor since the last meeting. Dr. J. Chester Bradley, Professor Emeritus of Cornell University, who is probably the most internationally honored American entomologist and President of the International Commission on Zoological Nomenclature, will be visiting Honolulu for a few weeks. He is scheduled to arrive on the 25th of this month and thus should be present at our next meeting. Dr. C. E. Mickel of the University of Minnesota is going to Korea for six months on an educational assistance program and will be in Honolulu from April 1st to 5th. Curtis W. Sabrosky of the U. S. Department of Agriculture (U. S. National Museum) will spend three months on Palau and Yap in connection with the Bishop Museum's Micronesia and zoogeography projects, on which the USDA, Navy, and Trust Territory are cooperating. Yoshio Oshiro of Honolulu is now working on Midway Island and will collect there for the Bishop Museum.

Dr. Gressitt also exhibited some Thailand insects, including rhinoceros beetles and *Scolia* species, and some new issues on Diptera in the INSECTS OF MICRONESIA series, which included the Culicidae by Bohart, Bibionidae and Scatopsidae by Hardy, Asteiidae by Sabrosky, and Coelopidae by Hardy.

Mr. Clagg reported that Mr. George Hutton of the Bureau of Yards and Docks had examined the Navy's entomological work here. Mr. Hutton was in Honolulu from January 22nd to February 8th, when he continued on to Guam.

SPODOPTERA MAURITIA (Boisduval): Mr. Bianchi announced that on February 2nd he and Mr. Warner had been shown an infestation of the lawn armyworm in a yard at the Waialua House Lots, three or four miles from Lihue, Kauai. He was later informed that egg masses of this moth had been found by Dr. Pemberton during the same week at Kekaha, thirty miles west of Lihue. These findings verify an earlier, tentative, and unpublished report of the moth on Kauai by Mr. Au of the Territorial Board of Agriculture and Forestry.

DRYOTRIBODES LITTORALIS Zimmerman: Mr. Bianchi called attention to the description of this new curculionid from Hawaii (ENT. MO. MAG. 17(199): 276-278, 1956), remarking upon the unusual circumstance that the description is based upon specimens found in driftwood.

MARCH 11, 1957

The 615th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, March 11, 1957, with President Christenson presiding.

Members present: Awai, Beardsley, Bess, Bianchi, Bonnet, Boyle, E. H. Bryan, Jr., Chock, Christenson, Clagg, Einmo, Fullaway, Gressitt, Hardy, Isenberg, Joyce, Kamasaki, Keck, Keiser, Kim, Look, Macdougall, Maeda, Mitchell, Nakata, Nishida, Ota, Pemberton, D. Rainwater, Steiner, Suehiro, Thistle, Tuthill, and Warner.

Visitors: Dr. and Mrs. J. Chester Bradley, L. R. Crockett, Louis E. McGee, and Elizabeth A. McMahan.

Mr. Louis E. McGee and Miss Elizabeth A. McMahan were elected to membership in the Society.

Dr. Pemperton spoke of the sudden and unexpected death on March 5th of Mr. Philip W. Weber, the Society's Editor. By vote of the membership the Secretary was instructed to send Mrs. Weber a letter of condolence and appreciation for services rendered the Society by her late husband. In accordance with Mrs. Weber's wishes, members were urged to contribute to the Hawaii Heart Fund instead of sending flowers.

Dr. J. Chester Bradley was introduced by Dr. Gressitt with a biographical sketch and delivered a most interesting talk entitled "Evolution of the Insect Orders."

NOTES AND EXHIBITIONS

CORYTHUCHA MORRILLI Osborn and Drake: Dr. Hardy reported a scarcity of this tingid bug on cocklebur in the Waianae section of Oahu, and Mr. Bianchi reported the same observation. It was first found in abundance on this plant in July 1953 ("PROCEEDINGS"¹ 15(2):282, 1954). The only

¹ Throughout this publication, "PROCEEDINGS" refers to the PROCEEDINGS OF THE HAWAIIAN ENTOMOLOGICAL SOCIETY.

explanation for the current low population of the bug appeared to be seasonal fluctuation.

EXPANSION OF ENTOMOLOGICAL FACILITIES AT BISHOP MUSEUM: On behalf of the Entomology Department of the Bishop Museum, Dr. Gressitt invited members and visitors of the Society to an open house, 3:00 to 5:00 P.M. on Thursday, April 4th, to celebrate the acquisition of an additional large room for use by the Entomology Department. Dr. C. E. Mickel, Chairman of the Department of Entomology, University of Minnesota, was to be a special guest and would speak about his department and of the work he would do in Korea. It was hoped that Curtis W. Sabrosky, on his way to Palau and Yap, would also be present. An exhibit of New Guinea insects would be shown and refreshments served.

PROPOSED CATALOGUE OF FAMILY NAMES: Dr. Gressitt spoke of a proposed catalogue of family names of insects to be prepared by the Entomological Society of America. This would not conflict with the rules or opinions of the International Commission on Zoological Nomenclature, he said. Dr. Bradley, himself President of the International Commission, ventured the opinion that the Commission would welcome any such stabilizing influence on family name usage as this list would likely prove to be.

APRIL 8, 1957

The 616th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, April 8, 1957, with President Christenson presiding.

Members present: Adachi, Balock, Beardsley, Bess, Boyle, Carter, Chock, Christenson, Clagg, Einmo, Fullaway, Gressitt, Haramoto, Hardy, Joyce, Kajiware, Kamasaki, Keck, Look, Maehler, McGee, Nakata, Nishida, Pemberton, D. Rainwater, Sakimura, Steiner, Suehiro, and Tuthill.

Visitor: Curtis W. Sabrosky.

Dr. Gressitt introduced Curtis W. Sabrosky of the U. S. Department of Agriculture. Mr. Sabrosky presented an interesting discussion of (1) the relationship between the U. S. National Museum and U. S. Department of Agriculture taxonomists who do their work at the Museum, (2) the field of interest of each taxonomist, and (3) his own current studies on the dipterous genus *Protocalliphora*. Mr. Sabrosky stated that Dr. Adam G. Böving had died of a heart attack about a month previously, and Miss Ina L. Hawes of cancer within the week.

NOTES AND EXHIBITIONS

DERMACENTOR ALBIPICTUS (Packard): Dr. Joyce reported that a large number of specimens of the winter tick were taken from a horse in upper

Manoa Valley, Oahu, early in January 1957. Many adults and nymphs were found on the horse, which had been imported from Montana about the middle of December 1956. Steps were immediately taken to destroy the infestation and prevent the establishment of the tick in Hawaii. The horse was treated with a lindane dip, and the corral and surrounding area were also treated in an effort to kill any adults that might have dropped off the host. Having a more northerly range, the winter tick would perhaps be poorly adapted to the Hawaiian climate. Had the horse been imported during the summer, however, the tick might well have been *D. andersoni* Stiles, the vector of Rocky Mountain spotted fever.

Dr. Joyce noted that this occurrence points up the ever-present possibility of the establishment of such dangerous species in Hawaii, and he then presented a summary of the winter tick's life cycle and taxonomic characters. Dr. Hardy was led to question the adequacy of current inspection procedures on incoming livestock in the light of this event. Dr. Pemberton suggested that this could constitute an argument against establishing the axis deer on other of the Hawaiian Islands than Molokai, as some wish.

PHYTOBIA (AMAURÖMYZA) MACULOSA (Malloch): Dr. Hardy exhibited specimens and stated that he had found this agromyzid fly mining the leaves of burdock, *Arctium lappa* L., and sweet potato, *Ipomoea batatas* (L.), on the University Farm and that Mr. Beardsley had reared it from *Gnaphalium* sp. in March 1957. This fly evidently attacks a wide range of Compositae and other plants and may prove of considerable economic importance. It was first reported in Hawaii by Dr. Hardy at the July 9, 1956, meeting ("PROCEEDINGS" 16(2):188, 1957).

INSECTS ON ALFALFA, *Medicago sativa* L.: Dr. Hardy reported the following insects attacking alfalfa in poor condition at Poamoho, Oahu, in March 1957: *Pseudococcus brevipes* (Cockerell) on roots, and *Hemiberlesia rapax* (Comstock) and *Vanduzeeia segmentata* (Fowler) above ground, the latter in large numbers. These pests, however, did not appear to be wholly responsible for the bad condition of the alfalfa. Apparently they have not previously been recorded on this host in Hawaii.

ORTHOTYLUS IOLANI Kirkaldy: Mr. Beardsley exhibited specimens of this mirid bug that were collected on the foliage of wiliwili trees, *Erythrina sandwicensis* Degener, on the Waialua side of Mt. Kaala, Oahu, at about 500 to 1500 feet elevation on March 24, 1957. All the wiliwili seen in the area were heavily infested with these bugs, and damage to foliage was evident in the form of minute chlorotic spots at the sites of individual feeding punctures.

UNIDENTIFIED CARABIDAE: Specimens of two species of unidentified ground beetles, apparently previously unrecorded immigrants, were shown by Mr. Beardsley. One minute species had been taken only in H.S.P.A. light traps located in Ewa and Waipio, Oahu. The second and larger species had also

been taken in the Ewa light trap, and additional specimens were collected at Hilo and Naalehu, Hawaii, by students in the beginning entomology course at the University of Hawaii.

APION ANTIQUUM Gyllenhal **AND DUNG BEETLES**: Mr. Chock exhibited specimens of several beneficial beetles recently released by the Board of Agriculture and Forestry for biological control of plant and insect pests. The weevil, *A. antiquum*, was released to control *Emex spinosa* Campd. and *E. australis* Steinh. and showed considerable promise. The several species of scarabaeid dung beetles were sent from Southern Rhodesia by Mr. Krauss and were liberated very recently on Hawaii for control of the horn fly, *Siphona irritans* (L.), by disposing of cattle manure.

ORCHIDOPHILUS ATERRIMUS (Waterhouse): Dr. Carter noted that this weevil pest of orchids was apparently becoming more abundant and was beginning to occur on *Cattleya* flowers—a new phenomenon—and commonly on other orchid flowers.

OPIUS FORMOSANUS Fullaway **IN COSTA RICA**: President Christenson reported that this braconid parasite had been recently recovered from an *Anastrepha* species and *Ceratitis capitata* (Wiedemann), the Mediterranean fruit fly, in Costa Rica. This was the first recovery of any parasite shipped to that area from Hawaii, but it was not yet definite whether the parasite was permanently established there.

ERADICATION OF MEDITERRANEAN FRUIT FLY IN FLORIDA: Mr. Steiner stated that the area still under treatment in Florida for eradication of *Ceratitis capitata* (Wiedemann) had been reduced to 13,000 acres. Only 24 flies were taken in the 50,000 traps in use in February, and 13 flies in March. Another 10,000 traps were to be put in use right away. A new synthetic lure, perhaps even better than *Angelica*-seed oil, had been developed and was to be employed immediately.

ENTOMOLOGICAL PROJECTS AT B. P. BISHOP MUSEUM: Dr. Gressitt presented the following information:

"The project 'Zoogeography of Pacific Insects' has been enlarged with the addition of another technician and a half-time field-worker. Wm. W. Brandt has been employed jointly by Bishop Museum and the Administration of the Territory of Papua and New Guinea (in cooperation with the Commonwealth Scientific and Industrial Research Organization). He started last October, working first on Normanby I., then on Woodlark I., and proceeds next to the Owen Stanley Mts. The Lepidoptera will go to Canberra; other insects to Bishop Museum, with duplicates to Port Moresby.

"Field work was done in 1956 by E. J. Ford, Jr. and myself in NE. Australia, E. New Guinea, New Britain, New Ireland, Bougainville and Guadalcanal. In 1957 (late July to late December) I shall go to New Hebrides, E. Solomons, N. New Guinea, N. Borneo and Thailand. With the cooperation

of the USDA and the Office of Naval Research, we are sending C. W. Sabrosky to Palau, Yap and Guam from April through June. We hope to send D. E. Hardy to New Guinea this year. E. G. Munroe and Geo. Holland are being sent to New Guinea for field work this year by the Canada Dept. of Agriculture, in cooperation with this project.

"It is hoped to commence publishing on New Guinea area insects within two years. Sixteen issues of INSECTS OF MICRONESIA have appeared; two more are nearly off the press; and others in press. The facilities of the Entomology Dept., Bishop Museum have been further augmented by additional floor space and new cases."

MAY 13, 1957

The 617th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, May 13, 1957, with President-elect Tuthill in the chair.

Members present: Balock, Beardsley, Bess, Bonnet, Boyle, Carter, Chilson, Fullaway, Gressitt, Haramoto, Hardy, Isenberg, Joyce, Kajiwara, Kamasaki, Kim, Look, Macdougall, McGee, Nakata, Nishida, Pemberton, Sakimura, Steiner, Suehiro, Tuthill, and Warner.

Visitor: James F. Cooper.

Mr. Steiner introduced Mr. James F. Cooper, who spoke briefly of his work at the U. S. Department of Agriculture's fruit fly laboratory in Mexico City.

Dr. Bess delivered a Kodachrome-illustrated talk entitled "Entomological Work in Canada."

NOTES AND EXHIBITIONS

Mr. Beardsley exhibited specimens and presented notes on the following three species:

PHANEROPTERA FURCIFERA Stål (see photograph): A male specimen of this tettigoniid grasshopper was taken in an H.S.P.A. light trap at Waipio, Oahu, on April 15, 1957. Subsequently, two additional specimens, a second adult male and a female nymph, were collected by sweeping *Desmanthus* and *Leucena glauca* (L.) Benth. in the vicinity of the trap. This species appears to be a recently established immigrant. Material was identified by Dr. Ashley B. Gurney of the U. S. Department of Agriculture, who stated that he had specimens on hand from Guam and Luzon. Dr. Gurney noted that this is apparently the same species that Swezey called *brevis* in his 1946 report on Guam Orthoptera and called attention to a new revision of *Phaneroptera* by Dr. David R. Ragge of the British Museum (PROC. ZOOL. SOC. LONDON 127(2):205-283, 1956).

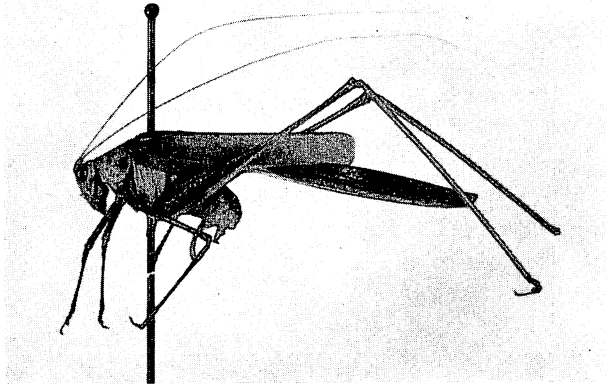


FIG. 1. *Phaneroptera furcifera* Stål, male (approximate length to tip of hind wings, 30 mm.)

METIOCHE VITTATICOLLIS (Stål): Mr. Beardsley collected this small cricket at Kawela, Molokai, on December 12, 1956—a new island record. It was previously recorded from Oahu, Niihau, Maui, and Hawaii and probably occurs on all the Islands.

ACRAPEX, undescribed species: Four specimens of this phalaenid moth, probably an immigrant species, were taken by Mr. Beardsley in a light trap operated by him at his home in Aina Haina, Oahu, during December 1956 and March 1957. A pair was sent to Mr. D. F. Fletcher at the British Museum, who writes that they apparently belong to an undescribed form. This species is larger than *A. examinis* (Meyrick), the only closely related species known in the Islands, and has markedly different male antennae. The larvae of this new form will probably be found boring in grasses.

TERMITE FUMIGATION: Dr. Bess exhibited a wooden-block type of container being used in fumigation tests against the dry-wood termite, *Cryptotermes brevis* (Walker). Termites are confined in a smaller wood-and-glass cage, which is then sealed within the larger block by a glass plate with paraffin around the edges. The blocks were designed to obtain a measure of the relative effectiveness, in terms of penetrating power, of methyl bromide and "Vikane" (sulfuryl fluoride—a product of Dow Chemical Company) in tent fumigation of buildings.

XYLOTRECHUS sp. on Midway Island: Dr. Gressitt reported that Yoshio Oshiro had been sending insects from Midway, which included a number of new records. One specimen taken from imported lumber was a North American cerambycid beetle of the genus *Xylotrechus*, a borer of hardwood.

TRAPPING OF AIRBORNE INSECTS: Dr. Gressitt stated that experiments had been initiated at the Bishop Museum to test trapping of airborne insects. The main objective was to develop techniques for collecting such insects over the ocean from ships or planes and on atolls or other small

islands to study natural dispersal. Various adhesives had been used on screen in rotating metal cylinders facing the wind and on paper attached to horizontal boards. Certain banding materials received from the California Spray-Chemical Company proved to be far superior to "Tree Tanglefoot" and held up the longest through bad weather. Regardless of the adhesive used, however, it was found difficult to get good specimens because of the necessity of removing them from the adhesive and the need for using non-aqueous solvents in the process. In experiments conducted so far, atop the Bishop Museum, some of the insects taken appeared to be native species blown off the Koolau Mountains. To date, the following numbers of various groups had been taken: 2 spiders, 11 Psocoptera, 16 Isoptera, 7 Homoptera, 8 Heteroptera, 59 Lepidoptera, 14 Coleoptera, 89 Diptera, and 69 Hymenoptera. At least 41 families and a larger number of species were represented. Microlepidoptera and Nematocera were most numerous.

Dr. Gressitt also announced that Mrs. Philip W. Weber had donated her late husband's insect collection to the Bishop Museum.

REARING OF PSEUDOCOCCUS BREVIPES (Cockerell): Dr. Carter reported that his experimental work with the pineapple mealybug had been facilitated by a simple rearing technique discovered by an assistant, Mrs. Tatsuko Kurata. This mealybug gets very large on sisal leaves, *Agave sisalana* (Engelm.) Perrine, and when leaves are cut and placed on the ground beneath the plant, great numbers of gravid females can be harvested from the leaves periodically.

RADFORDIA ENSIFERA (Poppe): Dr. Joyce stated that he had collected this myobiid mite from a rat on April 12, 1957. This is a new mite record for the Territory.

BLABERUS sp. from ship: Dr. Joyce exhibited a large roach, thought to be a species of *Blaberus*, that was taken on an old ship in Honolulu Harbor on its way to Japan for dismantlement. Species of this genus, which includes the largest of the roaches, are common in Central America and Mexico.

JUNE 10, 1957

The 618th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, June 10, 1957, with President Christenson presiding.

Members present: Adachi, Balock, Beardsley, Bess, Bianchi, Bonnet, Boyle, Chilson, Chong, Christenson, Einmo, Ford, Gressitt, Joyce, Kamasaki, Keck, Look, Maeda, McGee, Nakata, Ota, Pemberton, D. Rainwater, Rosa, Steiner, Suehiro, and Tuthill.

Visitors: Dr. Arthur K. Burditt, Jr., Francisco A. Estrada, and James R. Holloway.

Dr. Arthur K. Burditt, Jr., and Mr. James R. Holloway were nominated for membership in the Society.

Mr. Bianchi delivered an interesting talk on "Sugarcane Insects," which stimulated a considerable amount of lively discussion.

NOTES AND EXHIBITIONS

ERADICATION OF MEDITERRANEAN FRUIT FLY IN FLORIDA: President Christenson reported that Mr. Steiner had been granted the U. S. Department of Agriculture's AWARD FOR SUPERIOR SERVICE. The citation reads, "for invaluable service to the cooperative Mediterranean fruit fly eradication campaign in Florida, made possible by far-sighted planning, organization, coordination, and execution of chemical control research on this destructive insect."

Mr. Steiner exhibited a map showing areas of current and past infestations of the Medfly in Florida. About 30,000 acres in four counties were still being sprayed, as compared with a past maximal infestation of approximately 795,000 acres in 28 counties. A slight increase in the size of the infested area had occurred during May because of infestations that had survived the winter without detection.

INSECTS OF HAWAII series: Dr. Tuthill announced that the University of Hawaii Press had been granted \$20,000 by the National Science Foundation for the continued publication of this series. Volume six on the Neuroptera, by Zimmerman, was expected to be off the press shortly.

OXYETHIRA MAYA Denning: Miss Adachi reported for Dr. Hardy that this caddisfly was taken in a light trap at Hilo, Hawaii, by Susumu Nakagawa in April 1957. It had previously been recorded only from Oahu.

PSEUDOCOCCUS MARITIMUS (Erhorn): Miss Adachi also reported for Dr. Hardy that the grape mealybug had been found severely damaging white clover on the University of Hawaii's experimental farm at Waimanalo. Material was held, but no parasites or predators were recovered.

HELIOTHIS VIRESCENS (Fabricius): Mr. Beardsley exhibited hibiscus flowers that were partly eaten by the tobacco budworm—a new food record for this phalaenid.

CALENDRA CARIOSA (Olivier): Mr. Ford announced that he had collected this billbug in his back yard at Wahiawa, Oahu. This curculionid was first recorded in the Territory from a single Oahu specimen by Mr. Beardsley in 1956 ("PROCEEDINGS" 16(2): 190, 1957).

TERMITE FUMIGATION: Dr. Bess reported that experiments completed to date indicated that Dow Chemical Company's "Vikane" was a better penetrant than methyl bromide and had the added advantage of not damaging rubber and certain other materials as did the latter gas. However, this new fumigant was not yet available on the market.

TRAPPING OF AIRBORNE INSECTS: Dr. Gressitt announced that experiments in trapping airborne insects were continuing and that plans were being made to do trapping on Eniwetok, Jarvis, Wake, and other isolated small islands or atolls in the Pacific, as well as on ships. Further trapping on the roof of the Bishop Museum had produced large numbers of specimens, which were to be detailed later. Termites were frequently trapped on the back (leeward) side of rotary traps facing the wind, which indicated that they were flying against the wind, above the building. California Spray-Chemical Company's experimental "Deadline" had proved to be the most effective trapping agent, but it was found difficult to remove specimens from it without damaging them. Resin-castor oil was found better from that standpoint, but it required re-application much more often and did not catch so many insects.

HOW MOSQUITOES REACHED HAWAII: Dr. Bonnet called attention to an article by William T. Brigham entitled "Ka Hana Kapa—*The Making of Bark Cloth in Hawaii*" (MEM. B. P. BISHOP MUS. 3:197, 1911), in which the author gives a presumably authentic account of the introduction of mosquitoes into Hawaii.

Brigham states: "Kapa (bark cloth) was used at times for screens and partitions in houses and on the southern islands for mosquito nets, like the *Tinamu* of the Samoans. The Hawaiians had none of these very troublesome insects before 1827 when they were maliciously introduced by a wicked white man.⁸⁶ If a white man brought the pest, other white men brought mosquito netting far superior to any made of Kapa and so no Hawaiian *Tinamu* was invented."

Footnote 86 indicated in the paragraph above is as follows: "Objection having been made to the use of the words *maliciously* and *wicked* by a member of the Publication Committee, I add the following account of the introduction of this pest, which all people are desirous of banishing, and many governments are trying at considerable expense to exterminate with more or less success. In 1864, while the guest of Rev. Dr. D. Baldwin of the American Mission at Lahaina, Maui, I was told by my host that in 1827 the master of a trading vessel then lying off the port of Lahaina was refused an unlimited supply of women on his vessel, also found difficulty in getting all the intoxicants he desired. This was the order of the native chiefs, but, as usual in those times, it was imputed to the missionary company, and the disappointed mariner vowed vengeance on the supposed disturbers of his revels. On his next voyage he brought a tub of stagnant water with a supply of the enemy and landed it at Lahaina. Not long after a native came to Dr. Baldwin with a mosquito, which he called 'a fly which bites,' and the doctor recognized the insect which he had never seen on the Hawaiian Islands before. I leave to my readers whether such an act was malicious, and whether the fellow who did it was wicked. I may add that he openly boasted of his deed."

CACTOBLASTIS CACTORUM (Berg): Dr. Bonnet reported that larvae of this phycitid moth were destroying *Opuntia* cactus on the island of Niihau. Ranchers there consider this undesirable because the cactus is useful as cattle forage during droughts. Mr. Bianchi noted that he had recently searched for *Cactoblastis* on Kauai without finding it.

ANTHRAX DISTIGMA Wiedeman: Mr. Bianchi stated that this bombyliid was becoming more common on Oahu. The fly is gentle and sometimes hovers near a person's face to explore the nasal and other openings. This habit suggests that it may parasitize something besides mud dauber and potter wasps.

CHLORION (ISODONTIA) HARRISI Fernald; **CHLORION THOMAE** (Fabricius): Miss Suehiro reported that these two immigrant cricket wasps were collected on Kauai in 1956 by Mr. Isenberg, the first Hawaiian record for these species outside of Oahu. *Chlorion harrisi*, first collected in 1930 at Waianae, Oahu, by Drs. Swezey and Williams and collected occasionally on Oahu since, was taken at Lihue, Kauai; and *C. thomae*, first captured by Mr. Bianchi at Kaelepulu Pond in Kailua, Oahu, in 1953, was taken at Anahola, Kauai.

JULY 15, 1957

The 619th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, July 15, 1957, with President Christenson in the chair.

Members present: Adachi, Balock, Beardsley, Bess, Bonnet, Boyle, Carter, Chong, Christenson, Gressitt, Holway, Isenberg, Joyce, Kajiwaru, Kamasaki, Kim, Look, Macdougall, Maeda, McGee, Nakata, Namba, Nishida, Ota, Pemberton, D. Rainwater, Suehiro, and Woolford.

Visitors: Dr. Arthur K. Burditt, Jr., Francisco A. Estrada, James R. Holloway, Alan J. Kohn, Dr. Albert R. Mead, and Harold Toba.

Dr. Arthur K. Burditt, Jr., and Mr. James R. Holloway were elected to membership in the Society.

Dr. Carter gave a brief report on the Forty-first Annual Meeting of the Pacific Branch of the Entomological Society of America at Portland, Oregon, June 26 to 28, 1957.

Dr. Pemberton showed a 15-minute color motion picture on the biological and cultural control of the coconut rhinoceros beetle, *Oryctes rhinoceros* (L.), in the Palau Islands.

Dr. Bonnet delivered an interesting account, illustrated by Kodachrome slides, of his work on filariasis in the South Pacific.

NOTES AND EXHIBITIONS

GEOCOCCUS RADICUM Green: Dr. Namba reported that he had recently received specimens of this mealybug collected on the roots of coffee seed-

lings on the island of Hawaii. This is a new host record and a new island record for the species, which was originally described from the roots of grass in Ceylon. Its other hosts in Hawaii include *Acacia koa* Gray, *Caladium*, croton, *Cyperus rotundus* L., ferns, *Gerbera*, mango, palms, pineapple, and *Indigophora*.

HYPURUS BERTRANDI (Perris): Dr. Gressitt called attention to a paper by Dr. E. C. Zimmerman on this species: "The Portulaca Leafmining Weevil, *Hypurus bertrandi*, in Hawaii (Coleoptera: Curculionidae: Ceutorhynchinae)" (ANN. ENT. SOC. AMERICA 50(3):221-222, 1957).

DACUS UMBROSUS Fabricius and **D. FRAUENFELDI** Schiner: Dr. Gressitt announced that since the last meeting Curtis W. Sabrosky had returned from a very successful collecting trip to the Palau and Yap Islands. In Palau he collected a fruit fly new to Micronesia, *D. umbrosus*, which was taken in large numbers, all males, in traps baited with methyl eugenol. As it was taken throughout the Palaus, it may have been there for some time. It is recorded from breadfruit in Indonesia and the Philippines. *Dacus frauenfeldi* was taken in numbers in traps baited with anisyl acetone.

NEW INSECTS AND MITES ON GUAM AND BONIN ISLANDS: Dr. Gressitt stated that both Dr. W. W. Cantelo and Dr. A. A. LaPlante had sent specimens to the Bishop Museum of a fruit fly intercepted at Guam in tomatoes from the Bonin Islands. The species is *Dacus dorsalis* Hendel rather than *D. boninensis* described by Hardy (INSECTS OF MICRONESIA 14(1):12-14, 1956). Dr. Cantelo also sent lists of partially identified species representing several new records for Guam. These included *Erionota thrax* (L.), a hesperiid butterfly whose larvae attack banana, and some mites, leafhoppers, scales, aleyrodids, and others, from several agricultural crops. Also submitted were the larvae of a crane fly that were found in the growing point of banana on Agrihan Island.

The following three notes were also presented by Dr. Gressitt:

INSECTS OF MICRONESIA series: A new issue of this series is off the press: "Coleoptera: Elateridae" by R. H. Van Zwaluwenburg (Vol. 16, No. 1). The Bishop Museum has engaged Mrs. D. Blumenstock as a half-time entomological editor, and Mr. Carl Isenberg has also been employed in the Entomology Department.

ENTOMOLOGISTS VISITING HAWAII: Among recent visitors to Hawaii were Drs. George Holland and E. G. Munroe of the Division of Systematic Entomology and Biological Control at Ottawa, Canada, who were on their way to New Guinea, and Dr. Bernard V. Travis of Cornell University en route to Los Baños, the Philippines.

TRAPPING OF AIRBORNE INSECTS: As a part of the Bishop Museum's program for trapping airborne insects, traps have been constructed of frames

holding aluminum screening. These will probably be installed on military transports crossing the Pacific.

EUSPHYRUS RECTUS Schaeffer: Mr. Beardsley reported that the small anthribid beetle first recorded by him in May 1956 from light-trap material ("PROCEEDINGS" 16(2):186, 1957) had recently been identified by Dr. E. C. Zimmerman as this species. This beetle was described from Texas (TRANS. AMERICAN ENT. SOC. 32:271-272, 1906).

PISON INSULARE Smith: Mr. Isenberg stated that he had collected one specimen of this sphecid wasp at Lihue, Kauai, in August 1956—a new island record. It was first collected in the Territory on the Kawaiiki Trail in the Koolau Mountains, Oahu, by P. W. Weber ("PROCEEDINGS" 13(2):222, 1948; 13(3):332, 1949). This species is readily distinguished from other Hawaiian species of *Pison* (except *hospes*) by its large size, 9.5 to 11 mm.

AUGUST 12, 1957

The 620th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, August 12, 1957, with President Christenson presiding.

Members present: Adachi, Balock, Beardsley, Bess, Biachi, Bonnet, Boyle, Burditt, Carter, Chilson, Christenson, Ford, Haramoto, Holloway, Isenberg, Joyce, Kamasaki, Keck, Keiser, Look, Maeda, Maehler, McGee, Mitchell, Nakata, Namba, Nishida, Ota, Pemberton, D. Rainwater, Suehiro, Tuthill, and Warner.

Visitors: Francisco A. Estrada, Dr. Blair McGugan, Dr. Albert R. Mead, and Edward L. Mockford.

Mr. Francisco A. Estrada was nominated for membership in the Society.

By vote of the membership, the Secretary was instructed to send a draft in the amount of fifty dollars to the Zoological Society of London as our Society's customary annual contribution toward the publication of the ZOOLOGICAL RECORD.

Dr. Albert R. Mead, Chairman of the Department of Zoology, University of Arizona, spoke of his current research on a disease of the giant African snail, which he is studying here. He exhibited a large specimen showing the syndrome associated with the disease.

Mr. Francisco A. Estrada presented a Kodachrome-illustrated account of entomological research in Nicaragua.

NOTES AND EXHIBITIONS

CONOTELUS MEXICANUS Murray: Mr. Ford exhibited larvae and pupae of this immigrant nitidulid beetle, which he found breeding in decaying flowers of double pink hibiscus. He stated that the eggs of this beetle are deposited in various flowers soon after they open and that they hatch after

the flowers fall to the ground. The larvae feed upon the decaying flowers, and completion of the life cycle is dependent upon the length of time during which the flowers retain sufficient moisture.

NEW RECORDS OF SCOLYTID BEETLES: Mr. Ford presented notes on the following species of bark beetles that he had collected and which were determined by Dr. S. L. Wood: (1) *Ericryphalus henshawi* Hopkins was bred from *Ilex anomala* f. *sandwicensis* (Endl.) Loes. and *Acacia koa* Gray from various localities on Oahu during 1951 to 1954. This is a new record for the Territory. (2) *Hypothenemus mauiensis* Schedl has been known heretofore only from Maui. Three specimens were bred from *Citrus sinensis* (L.) Osbeck collected at Moanalua Gardens, Oahu, in March 1953—a new island record. (3) *Stephanoderes hivaoea* Beeson has not been recorded previously from the Territory. Specimens were collected at Waianae, Oahu, in August 1949. This name may possibly be a synonym of *S. hawaiiensis* Schedl.

ICERYA PURCHASI Maskell: Dr. Tuthill reported that on July 6, 1957, he collected specimens of the cottony cushion scale on a *Casuarina* tree on Eniwetok Atoll in the Marshall Islands. It appeared that the scales had been imported with the tree, which was heavily infested; and scales were beginning to spread to adjacent vegetation. *Icerya purchasi* has not been reported previously from the Marshall Islands, although a related species, *I. aegyptiaca* (Douglas), is known from several of the Marshall atolls and is sometimes a serious pest of breadfruit and citrus. The scales were identified by Mr. Beardsley.

NEOPTINUS, undescribed species: Mrs. Rainwater stated that the pinid beetle that she had previously reported from Kauai ("PROCEEDINGS" 16(2): 195, 1957) was determined by Dr. R. D. Pope of the British Museum as an undescribed species of *Neoptinus*.

PYEMOTID MITE ATTACKING MAN: Dr. Boyle reported that on July 16 he accompanied Mr. William Komoda of Vet's Termite Control to the Honolulu Myohoji Mission at 2003 Nuuanu Avenue, to investigate complaints apparently involving a biting arthropod. The building had been fumigated for dry-wood termites in April, and was found to be infested on the inside with a mite similar to *Pyemotes ventricosus* (Newport), the straw itch mite. The mite was issuing from termite burrows in large numbers and had presumably bred up to a large population on dead termites. Many specimens were taken, including gravid females. Local pest control operators state that this type of infestation occasionally occurs after a building is fumigated for termite control. Dr. Boyle stated that he suffered at least 50 mite bites, the symptoms of which were very like those described on pages 166 and 167 of Baker and Wharton's AN INTRODUCTION TO ACAROLOGY (Macmillan, 1952).

VANDUZZEA SEGMENTATA (Fowler): Dr. Pemberton reported that Mr. Davis had recently found this membracid attacking the blossoms of ohia lehua, *Metrosideros collina polymorpha* (Gaud.) Rock, on the island of Hawaii.

Nymphs were found in great abundance in infested blossoms. This is a new host record for the insect.

TENEBRIO MOLITOR L.: Miss Suehiro exhibited an adult specimen of the yellow mealworm that was collected in Honolulu by Dr. R. C. L. Perkins during the 1890's. This cosmopolitan pest of stored products has never been recorded in our literature and no other Hawaiian specimens are known, although the closely related dark mealworm, *T. obscurus* Fabricius, was once collected in the Bishop Museum building.

COCCINELLA CALIFORNICA Mannerheim: An adult specimen of this ladybird beetle was exhibited by Miss Suehiro. It is a California species that is occasionally taken in Hawaii on fruits and vegetables from the West Coast, but it is not known to be established here. The specimen exhibited was collected at Koloa, Kauai, on August 8, 1956. This is the first record of the beetle having been collected on an island other than Oahu.

ADORETUS SINICUS Burmeister: Dr. Carter reported that adult Chinese rose beetles had attacked intermediate pineapple plants in a number of spots over an area of about 1800 acres in the Poamoho region of Oahu. This damage involved an unusually large area and indicates that a very large population of beetles must have built up in areas adjacent to pineapple fields.

DEROCERAS LAEVE (Müller): Dr. Albert R. Mead exhibited a specimen of this slug, which he had found widely distributed on Oahu. The species has not been previously reported from the Territory. The name *Agriolimax gracilis* Rafinesque is a synonym.

SEPTEMBER 9, 1957

The 621st meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, September 9, 1957, with President Christenson in the chair.

Members present: Adachi, Balock, Bess, Bianchi, Bonnet, Boyle, Burditt, Carter, Christenson, Clagg, Davis, Haramoto, Hardy, Holway, Kajiwara, Kim, Maehler, Macdougall, Maeda, Mitchell, Namba, Nishida, Pemberton, Rosa, Sherman, and Steiner.

Visitors: Francisco A. Estrada, Dr. John M. Hirst, M. E. Jefferson, and Norimitsu Tanaka.

Dr. John M. Hirst and Mr. Norimitsu Tanaka were nominated for membership in the Society.

Mr. Francisco A. Estrada was elected to membership in the Society.

Mr. M. E. Jefferson spoke briefly on recent advances in the use of radiation in entomology and exhibited photographs of the new cobalt-60 radiation unit he had just helped install at the U. S. Department of Agriculture's fruit fly laboratory in Honolulu.

Mr. Davis presented an interesting Kodachrome-illustrated account of his recent explorations for insect enemies of *Halogeton* species in southern Europe and the Near East.

NOTES AND EXHIBITIONS

RODOLIA CARDINALIS (Mulsant) to Eniwetok: Dr. Pemberton stated that Dr. Tuthill had left recently for the island of Eniwetok, where he was to liberate a shipment of the vedalia ladybird beetle prepared for him by Mr. Beardsley.

OCTOBER 14, 1957

The 622nd meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, October 14, 1957, with President-elect Tuthill presiding.

Members present: Adachi, Awai, Balock, Bess, Bianchi, Boyle, Burditt, Chilson, Chock, Chong, Clagg, Estrada, Ford, Fullaway, Haramoto, Hardy, Hinckley, Holloway, Kajiwarra, Kamasaki, Look, Macdougall, Maeda, McGee, Nishida, Ota, Pemberton, Rosa, Sherman, Steiner, Tuthill, and Woolford.

Visitors: Dr. John M. Hirst and Norimitsu Tanaka.

Dr. John M. Hirst and Mr. Norimitsu Tanaka were elected to membership in the Society.

President-elect Tuthill read a cablegram from Mr. Christenson, recently transferred to Washington, in which Mr. Christenson formally resigned the Presidency of the Society and conveyed his best wishes for a successful future.

Dr. Sherman presented an excellent Kodachrome-illustrated discussion of entomological research in Japan, where he had recently spent a sabbatical leave on research supported by a Fullbright grant.

NOTES AND EXHIBITIONS

CORYTHUCHA MORRILLI Osborn and Drake: Dr. Sherman stated that on September 17 numerous adults and nymphs of this tingid bug had been found attacking false ragweed, *Franseria strigulosa* Rydb., on the Nakama farm at Kamooloa, Waialua, Oahu.

COCCOTRYPES CARPOPHAGUS (Hornung): Mr. Chilson reported rearing large numbers of this scolytid beetle from seeds of the golden-fruited palm, *Chrysalidocarpus lutescens* (Bory) Wendl., collected during May 1957 in Honolulu. Adults were determined by Dr. W. H. Anderson of the U. S. Department of Agriculture. The species was first reported as new to the Territory by Mr. Van Zwaluwenburg in July 1955 ("PROCEEDINGS" 16(1):9, 1956).

TRICENTRUS ALBOMACULATUS Distant: Mr. Chilson announced that this membracid had been intercepted three times over the past few years on

Acalypha wilkesiana Muell.-Arg., in the course of pre-departure inspection of baggage going to the Mainland. This appears to be a new host record for the Territory.

CACTOBLASTIS CACTORUM (Berg): Mr. Fullaway reported that Mr. Stephen Au had found this phycitid moth established on Kauai early in September. Mr. Bianchi stated that he had found the species on nearly every cactus plant examined by him in the Koloa-Makahuena Point area of Kauai during the week of October 7 to 12, and that judging from the amount of feeding the moth had probably been on the island for several months.

NOVEMBER 18, 1957

The 623rd meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, November 18, 1957, with President Tuthill in the chair.

Members present: Adachi, Awai, Balock, Bess, Bianchi, Boyle, Burditt, Chong, Clagg, Davis, Fullaway, Haramoto, Hardy, Hirst, Holloway, Kajiwara, Keiser, Kim, Macdougall, Maeda, Maehler, Mitchell, Nakata, Nishida, Ota, D. Rainwater, Rosa, Sherman, Suehiro, Thistle, and Tuthill.

Visitor: Miss Shiu-Chen Chiu.

Dr. Hardy presented a most interesting Kodachrome-illustrated discussion of his recent trip of entomological exploration in New Guinea.

NOTES AND EXHIBITIONS

THERAPHOSID SPIDER: Dr. Hardy exhibited a large bird spider of the family Theraphosidae (popularly called "tarantulas" in the southwestern United States) that had been intercepted by a Territorial quarantine officer in an automobile shipped from the Mainland. There followed some discussion of this interception and quarantines in general.

DECEMBER 9, 1957

The 624th meeting convened at the Experiment Station, H.S.P.A., at 2:00 P.M. on Monday, December 9, 1957, with President Tuthill presiding.

Members present: Adachi, Awai, Balock, Bess, Bianchi, Boyle, Burditt, Carter, Chong, Clagg, Davis, Fullaway, Haramoto, Hardy, Holloway, Isenberg, Joyce, Kajiwara, Kamaski, Keiser, Kim, Look, Maeda, Maehler, McGee, Mitchell, Nakata, Namba, Nishida, Ota, D. Rainwater, Rosa, Sakimura, Sherman, Suehiro, Tamashiro, Tuthill, and Woolford.

Visitors: Naoki Hatai and Torao Kobayashi.

The death on November 28 of "Prof. Harry" Smith, Emeritus Professor of Entomology, University of California, and Honorary Member of our Society,

was announced. By vote of the membership, the Acting Secretary was directed to write a letter of condolence to Prof. Harry's family. (See obituary elsewhere in this issue.)

The following officers were elected for 1958:

<i>President</i>	L. D. Tuthill
<i>President-elect</i>	Toshiyuki Nishida
<i>Secretary</i>	J. W. Beardsley
<i>Treasurer</i>	W. C. Mitchell
<i>Advisor</i>	C. E. Pemberton

Mr. Naoki Hatai, an entomologist with the National Institute of Agricultural Sciences in Tokyo, Japan, and Mr. Torao Kobayashi, President of the Kyoritu Noki Company in Tokyo, were introduced by Dr. Bess. Mr. Hatai presented a brief account of his current tour of the mainland United States and Hawaii.

Mr. Tamashiro, recently returned from two years of graduate work at the University of California, Berkeley, discussed some of the entomological projects currently in progress at that institution.

NOTES AND EXHIBITIONS

Mr. Bianchi presented the following notes for Mr. Beardsley, currently on study leave in Washington, D. C.

HALICTUS (CHLORALICTUS) sp.: Two specimens of this little halictid bee were collected in the Makiki section of Honolulu during 1957. The first was taken by Mr. R. Yee, a University of Hawaii entomology student, during April; and the second was taken by Mr. Beardsley on the grounds of the H.S.P.A. Experiment Station during September. The specimens were identified by Dr. Karl V. Krombein of the U. S. Department of Agriculture, who noted that the bee is probably a species native to the Mainland west coast. At his suggestion, specimens have been sent for further identification to Professor P. H. Timberlake at Riverside, California.

GLYPTOCOLASTES TEXANUS Ashmead: This braconid wasp was first recorded in the Territory in 1950 as *Russellia* sp. ("PROCEEDINGS" 14(2):208, 1951). Several specimens were taken from light-trap catches during the past year, but its hosts are unknown. The determination was made by Dr. C. F. W. Muesebeck.

MICROCTONUS VITTATAE Muesebeck: This braconid wasp was previously reported as *Microctonus* sp. ("PROCEEDINGS" 16(1):14, 1956). It is known to occur in Japan and the eastern United States, where it has been reared from beetles of the chrysomelid genus *Phyllotreta*. Related species have been bred from species of *Epitrix*, and *E. parvula* (Fabricius) is possibly a host in Hawaii. (Specimens were identified by Dr. C. F. W. Muesebeck.)

NEUROPRIA sp.: Specimens of this diapriid wasp were taken in a light trap at Ewa, Oahu, during 1956 and 1957 and were identified by Dr. C. F. W. Muesebeck. This is a new record for the Territory.

LYGOCERUS sp.: Dr. Muesebeck also identified this ceraphronid wasp to genus. Specimens were collected on the island of Hawaii by Dr. O. H. Swezey and labelled "*Megaspilus* sp.," but Dr. Swezey apparently never reported this find.

FLY TRAP: Dr. Joyce exhibited a simple type of fly trap made of readily available materials (a tin can, a glass jar, a standard jar ring, and some wire screen to make the funnel). He stated that this trap has proven very effective in collecting filth-inhabiting flies. The bait is held in the lower part of the tin can, from which the top has been removed. Slots are cut in the sides of the can about two inches from the bottom. A screen funnel is made to fit inside the jar ring, which is then placed on a standard pint or quart jar. The inverted jar then fits into the top of the can, which is three inches in diameter and about six inches tall.

Dr. Joyce reported taking the following two flies in Honolulu during June 1957 in traps baited with dead sparrows.

MUSCINA ASSIMILIS (Fallén): A specimen of this muscid was collected on June 27. Apparently this is a new island record, as the species has been reported previously only from Kamuela, Hawaii, where Dr. Hardy found it breeding in cabbage in March 1953 ("PROCEEDINGS" 15(2): 272, 1954).

CALLIPHORA VICINA (Robineau-Desvoidy): A specimen of this calliphorid, which appears to be rare in the Islands, was taken on June 13. It was first collected by Dr. Joyce in 1947 and 1948 ("PROCEEDINGS" 14(1):5, 1950) and apparently has not been taken in Honolulu since. Inasmuch as the fly was taken in the dock area, the present record may possibly be due to a reintroduction.

COLEOPTERA FROM MIDWAY ISLAND: Mr. Clagg reported the following identifications of beetles that were collected in rotten wood on Midway, May 23, 1957, by Mr. Meyer S. Bogost, Navy Special Assistant for Sanitary Engineering: *Alphitobius laevigatus* (Fabricius): Tenebrionidae, one specimen, determined by Mr. T. J. Spilman of the U. S. Department of Agriculture. *Dryophthorus* evidently *squalidus* Sharp: Curculionidae, four specimens, determined by Rose Ella Warner of the U. S. Department of Agriculture. This species is common throughout the Hawaiian Islands but has not been reported from Midway. Staphylinidae: one specimen, no specialist available.

TERMITES FROM WESTERN PACIFIC ISLANDS: Mr. Clagg presented the following notes on termites that were identified by Dr. T. E. Snyder at the U. S. National Museum.

PRORHINOTERMES INOPINATUS Silvestri: A widely distributed southern Pacific species previously reported from Guam (INSECTS OF GUAM 2:9, 1946), this form was found infesting a Navy laundry building on that island. According to Hill (TERMITES (ISOPTERA) FROM THE AUSTRALIAN REGION, pp. 136-139, 1942) it is normally found in rotten logs, and its invasion of buildings appears to be an unusual occurrence. The termites had built some 75 mud tubes from the soil up the inside of the concrete basement walls to reach the wooden portion of the structure. The inside of the basement, about 8 feet high, was very warm and humid due to many steam lines supplying the laundry equipment on the floor above. The mud tubes varied in height from only a few inches above the soil to others that reached the first floor. Several of the tubes were free-standing from the ground. However, none of these were more than 8 inches high. All of the tubes were narrow and fragile and crumbled very easily. Tubes built against the concrete walls were usually not built straight up but tended to wander over the surface. This was the only species of termite found infesting the building, and the tubes were quite dissimilar to those of *Coptotermes*.

COPTOTERMES FORMOSANUS Shiraki: This species was first found on Guam in Navy housing areas at Tipalao and later in other Naval areas near Apra Harbor and at Anderson Air Force Base near the northern end of the island. Dr. William W. Cantelo, entomologist for the Navy's Marianas Area Public Works Office, has written that *C. formosanus* is causing increasing damage on Guam each year, and he expects that infestations will in time become as widespread there as they are on Oahu.

On Midway Island, winged specimens of *C. formosanus* were first collected around lights during the summer of 1955 and again in the summer of 1956. On April 23, 1957, winged adults flew in open windows at the Bachelor Officers' Quarters, and an infestation containing all castes was located nearby the following day. In June 1957 two more buildings were found infested.

At Kwajalein Naval Station in the Marshall Islands, infestations of *C. formosanus* were first found in the wood of old building foundations in 1953 and were again collected in 1955 and 1956.

Mr. Davis presented the following notes:

CHLOROPS sp. **DAMAGING CITRUS**: On October 24, 1957, Mr. Nakao, Board of Agriculture and Forestry Entomologist and Plant Quarantine Inspector at Hilo, Hawaii, sent some injured rough-skin lemon seedlings for examination and identification of insect and other organisms working in the roots. The seedlings were grown at the Hilo Tree Nursery, and Mr. Nakao stated that approximately 85 percent of those in 100 flats were affected and that out of 600 seedlings in cans about 60 percent were affected. Flies reared from larvae in the roots were placed in the family Chloropidae by Dr. Hardy and subsequently in the genus *Chlorops* by Curtis W. Sabrosky of the U. S.

Department of Agriculture. Dr. Hardy stated that the larvae were working in live tissue and obviously damaging the roots and that damage by this species has not been previously recorded in the Territory.

ACHATINA FULICA Bowdich: On December 3, 1957, while releasing the carnivorous snail, *Euglandina rosea* (Férrusac), after a heavy rain on windward Oahu, Mr. Davis observed a giant African snail about 2 inches long swimming across standing water some 18 inches wide and 6 inches deep. The shell was horizontal on the water, the foot extended forward, and the head erect. The snail headed for an overhanging blade of grass and climbed it.

SYNGAMIA HAEMORRHOIDALIS Guenée: This pyralid moth was collected in Florida and Cuba early in 1956 and was released on Oahu, Hawaii, Maui, and Kauai between April and September ("PROCEEDINGS" 16 (2): 192, 314, 1957). It is now widely distributed on Oahu and Hawaii and is currently the most effective lepidopterous defoliator of lantana.

CATABENA ESULA Druce: Mr. Nakao found pupae of this phalaenid moth at two localities in Hilo and at Pahala, Hawaii, during November 1957, and adults have been taken in H.S.P.A. light traps on Oahu since August. These are the first recoveries of the moth, which was released in 1955 to control lantana ("PROCEEDINGS" 16(1):162, 1956).

Erratum: The note on *Macrosiphum granarium* (Kirby) presented by Dr. Hardy at the December 1956 meeting ("PROCEEDINGS" 16(2):197, 1957) was misstated. It should read: "Dr. Hardy stated that numerous alate specimens [not males] of the English grain aphid . . ."; and that part of the last line beginning with "but the new record . . ." should be deleted. Dr. Hardy adds that, to his knowledge, no male aphids have ever as yet been recorded in the Territory.—Ed.